

IN THE CLAIMS:

Claims 1, 7, 11, 17, 23, 29, and 33 have been amended. Claims 19-20 have been canceled. New claims 39-44 have been added. A listing of claims follows:

1. (Currently Amended) A method comprising:

storing a number of sets of static data across more than one memory unit of at least two memory units; ~~and~~

storing a number of sets of dynamic data within a single memory unit, such that a processing unit can read the set of static data from any of the at least two memory units; and

reading at least one of the number of sets of static data from an accessible one of the at least two memory units, upon determining that other ones of the at least two memory units are not accessible.
2. (Original) The method of claim 1, wherein the number of sets of the static data includes a forwarding table for data transmission of data packets across a network.
3. (Original) The method of claim 1, wherein the number of sets of dynamic data includes data packets to be processed by a processing unit within a network element.
4. (Original) The method of claim 3, wherein a first data packet of the data packets is stored across more than one of the number of sets of dynamic data.

5. (Original) The method of claim 4, further comprising storing a pointer to a first set of dynamic data of the number of sets of dynamic data that represent the first data packet.

6. (Original) The method of claim 1, wherein storing the set of static data across more than one memory unit of the at least two memory units includes storing the set of static data across each of the at least two memory units.

7. (Currently Amended) A method comprising:

storing a set of data across more than one of at least two memory units upon determining that the number of sets of data is static; ~~and~~

storing the set of data within a single memory unit of the at least two memory units upon determining that the set of data is dynamic; and

reading at least one of the set of data from an accessible one of the at least two memory units if the set of data is static, upon determining that other ones of the at least two memory units are not accessible.

8. (Original) The method of claim 7, wherein the set of data that is static includes a forwarding table for data transmission of data packets across a network.

9. (Original) The method of claim 7, wherein the set of data that is dynamic includes data packets to be processed by a processing unit within a network element.

10. (Original) The method of claim 7, wherein storing the set of data across more than one of at least two memory units upon determining that the number of sets of data is static includes storing the set of data that is static across each of the at least two memory units.

11. (Currently Amended) A method of accessing a set of data from a number of memory units, the method comprising:

reading the set of data from a single memory unit from the number of memory units, upon determining that the set of data is dynamic; and

reading the set of data from any accessible one of the number of memory units, upon determining that the set of data is static and upon determining that other ones of the number of memory units are not accessible.

12. (Original) The method of claim 11, wherein the set of data that is static includes a forwarding table for data transmission of data packets across a network.

13. (Original) The method of claim 11, wherein the set of data that is dynamic includes data packets to be processed by a processing unit within a network element.

14. (Original) A method of reading a set of data from a number of memory units, the method comprising:

reading the set of data from a single memory unit from the number of memory units, upon determining that the set of data is dynamic;

upon determining that the set of data is static, performing the following:

reading the set of data from a first memory unit from the number of memory units, upon determining that the first memory unit is accessible;

reading the set of data from a second memory unit from the number of memory units, upon determining that the first memory unit is not accessible and the second memory unit is accessible;

reading the set of data from a third memory unit from the number of memory units, upon determining that the first memory unit and the second memory unit are not accessible and the third memory unit is accessible; and

reading the set of data from a fourth memory unit from the number of memory units, upon determining that the first memory unit, the second memory unit and the third memory unit are not accessible and the fourth memory unit is accessible.

15. (Original) The method of claim 14, wherein the set of data that is static includes a forwarding table for data transmission of data packets across a network.

16. (Original) The method of claim 14, wherein the set of data that is dynamic includes data packets to be processed by a processing unit within a network element.

17. (Currently Amended) An apparatus comprising:

a first memory unit to store a set of static data and a first set of dynamic data,
wherein the dynamic data includes data packets to be transmitted across the network;

a second memory unit coupled to the first memory unit, the second memory unit to store the set of static data and a second set of dynamic data;

a first processing unit coupled to the first and second memory units, wherein the first processing unit can read the set of static data from the first memory unit or the second memory unit; and

a second processing unit coupled to the first and second memory units and the first processing unit, wherein the second processing unit can read the set of static data from the first memory unit or the second memory unit,

wherein the first processing unit and the second processing unit include a packet descriptor cache, the packet descriptor cache to include pointers to a first portion of the data packets stored in the first and second memory units.

18. (Original) The apparatus of claim 17, wherein the static data includes a forwarding table for data transmission of data packets across a network.

19. (Canceled)

20. (Canceled)

21. (Original) A network element for switching data packets across a network, the network element comprising:

a number of line cards, each line card comprising:

a first memory unit to store an Internet Protocol (IP) address table and a first number of portions of the data packets;

a second memory unit coupled to the first memory unit, the second memory unit to store the IP address table and a second number of portions of the data packets;

a first processing unit coupled to the first and second memory units, wherein the first processing unit can read the IP address table from the first memory unit or the second memory unit; and

a second processing unit coupled to the first and second memory units and the first processing unit, wherein the second processing unit can read the IP address table from the first memory unit or the second memory unit; and

a control card coupled to the number of line cards, wherein the control card can update the IP address table.

22. (Original) The network element of claim 21, wherein the first processing unit and the second processing unit include a packet descriptor cache, the packet descriptor cache to include pointers to a first portion of the data packets stored in the first and second memory units.

23. (Currently Amended) A machine-readable medium that provides instructions, which when executed by a machine, cause said machine to perform operations comprising:

storing a number of sets of static data across more than one memory unit of at least two memory units; and

storing a number of sets of dynamic data within a single memory unit, such that a processing unit can read the set of static data from any of the at least two memory units; and

reading at least one of the number of sets of static data from an accessible one of the at least two memory units, upon determining that other ones of the at least two memory units are not accessible.

24. (Original) The machine-readable medium of claim 23, wherein the number of sets of the static data includes a forwarding table for data transmission of data packets across a network.

25. (Original) The machine-readable medium of claim 23, wherein the number of sets of dynamic data includes data packets to be processed by a processing unit within a network element.

26. (Original) The machine-readable medium of claim 25, wherein a first data packet of the data packets is stored across more than one of the number of sets of dynamic data.

27. (Original) The machine-readable medium of claim 26, further comprising storing a pointer to a first set of dynamic data of the number of sets of dynamic data that represent the first data packet.

28. (Original) The machine-readable medium of claim 23, wherein storing the set of static data across more than one memory unit of the at least two memory units includes storing the set of static data across each of the at least two memory units.

29. (Currently Amended) A machine-readable medium that provides instructions, which when executed by a machine, cause said machine to perform operations comprising:

storing a set of data across more than one of at least two memory units upon determining that the number of sets of data is static; ~~and~~

storing the set of data within a single memory unit of the at least two memory units upon determining that the set of data is dynamic; and

reading at least one of the set of data from an accessible one of the at least two memory units if the set of data is static, upon determining that other ones of the at least two memory units are not accessible.

30. (Original) The machine-readable medium of claim 29, wherein the set of data that is static includes a forwarding table for data transmission of data packets across a network.

31. (Original) The machine-readable medium of claim 29, wherein the set of data that is dynamic includes data packets to be processed by a processing unit within a network element.

32. (Original) The machine-readable medium of claim 29, wherein storing the set of data across more than one of at least two memory units upon determining that the number of sets of data is static includes storing the set of data that is static across each of the at least two memory units.

33. (Currently Amended) A machine-readable medium that provides instructions for accessing a set of data from a number of memory units, the instructions when executed by a machine, cause said machine to perform operations comprising:

reading the set of data from a single memory unit from the number of memory units, upon determining that the set of data is dynamic; and

reading the set of data from any accessible one of the number of memory units, upon determining that the set of data is static and upon determining that other ones of the number of memory units are not accessible.

34. (Original) The machine-readable medium of claim 33, wherein the set of data that is static includes a forwarding table for data transmission of data packets across a network.

35. (Original) The machine-readable medium of claim 33, wherein the set of data that is dynamic includes data packets to be processed by a processing unit within a network element.

36. (Original) A machine-readable medium that provides instructions for reading a set of data from a number of memory units, the instructions when executed by a machine, cause said machine to perform operations comprising:

- reading the set of data from a single memory unit from the number of memory units, upon determining that the set of data is dynamic;

- upon determining that the set of data is static, performing the following:

- reading the set of data from a first memory unit from the number of memory units, upon determining that the first memory unit is accessible;

- reading the set of data from a second memory unit from the number of memory units, upon determining that the first memory unit is not accessible and the second memory unit is accessible;

- reading the set of data from a third memory unit from the number of memory units, upon determining that the first memory unit and the second memory unit are not accessible and the third memory unit is accessible; and

- reading the set of data from a fourth memory unit from the number of memory units, upon determining that the first memory unit, the second memory unit and the third memory unit are not accessible and the fourth memory unit is accessible.

37. (Original) The machine-readable medium of claim 36, wherein the set of data that is static includes a forwarding table for data transmission of data packets across a network.

38. (Original) The machine-readable medium of claim 36, wherein the set of data that is dynamic includes data packets to be processed by a processing unit within a network element.

39. (New) An apparatus comprising:

a first memory unit to store a set of static data and a first set of dynamic data;

a second memory unit coupled to the first memory unit, the second memory unit to store the set of static data and a second set of dynamic data;

a first processing unit coupled to the first and second memory units, wherein the first processing unit can read the set of static data from the first memory unit or the second memory unit; and

a second processing unit coupled to the first and second memory units and the first processing unit, wherein the second processing unit can read the set of static data from the first memory unit or the second memory unit,

wherein the first processing unit and the second processing unit include a packet descriptor cache, the packet descriptor cache to include pointers to a first portion of the data packets stored in the first and second memory units.

40. (New) The apparatus of claim 38, wherein the static data includes a forwarding table for data transmission of data packets across a network.

41. (New) A method within a network element, comprising:

storing static data within a plurality of memory units, and storing dynamic data within one of the plurality of memory units; and

reading the static data and the dynamic data by using a processing unit having a packet descriptor cache that includes pointers to packets within the plurality of memory units.

42. (New) The method of claim 41, wherein the static data is read from an accessible one of the plurality memory units, upon determining that other ones of the plurality of memory units are not accessible.

43. (New) The method of claim 41, wherein the static data includes a forwarding table for transmission of the packets across a network.

44. (New) The method of claim 41, wherein the dynamic data includes data packets to be transmitted across a network.